

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-27 (Canceled).

28. (Previously Presented) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film constructed of at least three layers including a lowermost layer, an uppermost layer and an intermediate layer located between the lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directly laminated, on one side, to said uppermost layer, so that said intermediate layer does not directly contact either said lower electrode or said upper electrode, said three layers being formed from crystal grains having a uniform size within each partial layer,

the lowermost layer being formed of uniform minute crystal grains having small pinhole size gaps therebetween and with a crystalline nucleus density of the lowermost layer being higher than those of the intermediate and uppermost layers.

Claims 29-31 (Canceled).

32. (Previously Presented) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film laminated constructed of five layers including a lowermost layer, an uppermost layer and three intermediate layers located between the lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directed laminated on one side, to said uppermost layer, so that none of said three intermediate layers directly contact either said lower electrode or said upper electrode, said layers being formed from crystal grains having a uniform size within each particular layer,

wherein a crystalline nucleus density of the lowermost layer is higher than those of the uppermost and intermediate layers.

Claims 33-36 (Canceled).

37. (New) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film constructed of at least three layers including a lowermost layer, a uppermost layer and an intermediate layer located between the lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directly laminated, on one side, to said uppermost layer, so that said intermediate layer does not directly contact either said

lower electrode or said upper electrode, said three layers being formed from crystal grains having a uniform size within each partial layer,

the uppermost layer being formed of uniform minute crystal grains having small pinhole size gaps therebetween and with a crystalline nucleus density of the uppermost layer being higher than those of the intermediate and lowermost layers.

38. (New) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film constructed of five layers including a lowermost layer, an uppermost layer and an three intermediate layers located between the lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directly laminated on one side, to said uppermost layer, so that none of said three intermediate layers directly contact either said lower electrode or said upper electrode, said layers being formed from crystal grains having a uniform size within each particular layer,

wherein a crystalline nuclear density of the uppermost layer is higher than those of the lowermost and intermediate layers.

39. (New) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film constructed of at least three layers including a lowermost layer, a uppermost layer and an intermediate layer located between the

lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directly laminated, on one side, to said uppermost layer, so that said intermediate layer does not directly contact either said lower electrode or said upper electrode, said three layers being formed from crystal grains having a uniform size within each partial layer,

the uppermost layer and the lowermost layer being formed of uniform minute crystal grains having small pinhole size gaps therebetween and with crystalline nucleus densities of the uppermost layer and the lowermost layer being higher than that of the intermediate layer.

40. (New) A semiconductor device having a ferroelectric capacitor comprising:

a lower electrode laminated on one side to a substrate;

a ferroelectric thin film constructed of five layers including a lowermost layer, an uppermost layer and an three intermediate layers located between the lowermost layer and the uppermost layer, said lowermost layer only being directly laminated on another side of said lower electrode; and

an upper electrode only being directly laminated on one side, to said uppermost layer, so that none of said three intermediate layers directly contact either said lower electrode or said upper electrode, said layers being formed from crystal grains having a uniform size within each particular layer,

wherein crystalline nuclear densities of the uppermost layer and the lowermost layer are higher than those of the intermediate layers.